INTEROFFICE CORRESPONDENCE

Hawaiian Electric Co., Inc.

July 20, 2004

To: Ken T. Morikami

From: Kerstan J. Wong

Subject: East Oahu Transmission Project - Phase 1
Alternative Route – Kapiolani Boulevard

As noted on page 8, Line 19, of your testimony, HECO T-7[1], we further examined the use Kapiolani Boulevard instead of Fern Street for Phase 1 of the East Oahu Transmission Project[2]. Our findings since the project filing with the Public Utilities Commission further supports the use of Fern Street instead of Kapiolani Boulevard for the routing of the two new 46kV lines between Makaloa and McCully Substations (see Attachment 1 for map of routes). The following factors have led us to this conclusion:

- Utilizing the existing ductline between Makaloa and McCully Substations appears feasible on Makaloa Street (between Poni Street and Kalakaua Avenue), Kalakaua Avenue, Fern Street, Hauoli Street, and Lime Street. Therefore, HECO will be proposing a scope change to Docket No. 03-0417 to utilize this existing ductline as opposed to constructing a new ductline along that same route.

- Kapiolani Boulevard has been designated as a Bus Rapid Transit route[3], which may pose potential conflicts with the installation of a new ductline on that roadway.

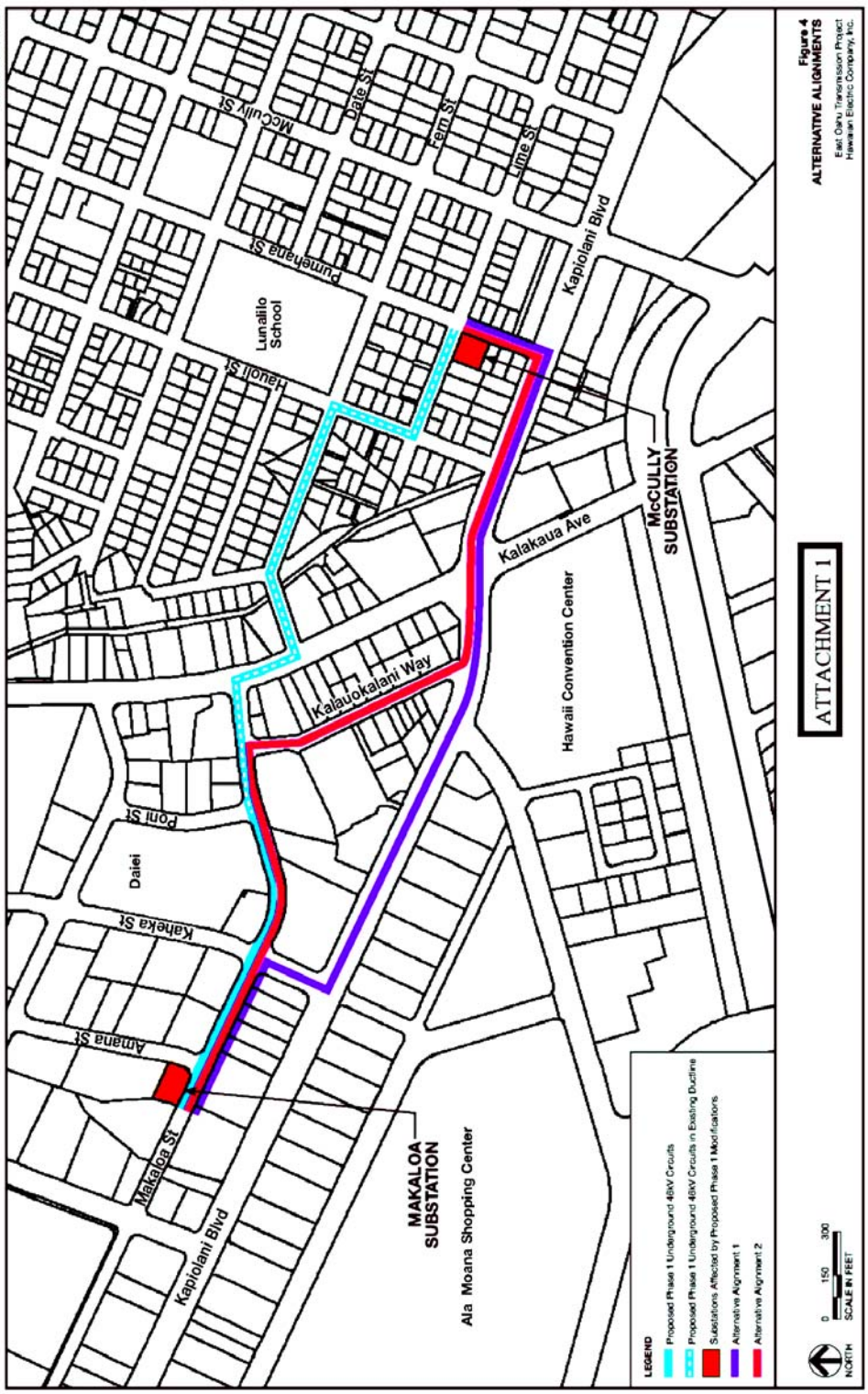
With the use of the existing ductline between Makaloa and McCully Substations, no trenching would be required for approximately two-thirds of the route. Therefore, traffic impacts and costs would be significantly minimized for this portion of the project. In comparison, the use of Kapiolani Boulevard would require a new ductline for the routing of these new 46kV lines. There is currently an insufficient amount of existing ductlines available in Kapiolani Boulevard for two 46kV underground circuits[4]. Because Kapiolani Boulevard is a heavily traveled roadway

[1] East Oahu Transmission Project, Public Utilities Commission Docket No. 03-0417, filed on December 18, 2003.
[2] A portion of Phase 1 involves the installation of two new 46kV underground lines to replace three existing 46kV lines between Makaloa and McCully Substations.
[3] Drawings I-50, I-51, I-51A, I-51B, I-52, Volume 4, Final Environmental Impact Statement, Primary Corridor Transportation Project, U.S. Department of Transportation, City & County of Honolulu Department of Transportation Services, July 2003.
[4] Existing ductlines are available for 12kV or lower voltage circuits.

and contains numerous existing underground utilities, the traffic impacts and construction costs would be significantly higher in comparison to utilizing the existing ductline.

Furthermore, there may be potential conflicts with installing a new ductline on Kapiolani Boulevard due to the proposed Bus Rapid Transit project. With minimum space available for new underground utilities, construction costs could increase substantially because of possible relocation of existing utilities and digging deeper trenches in order to resolve the potential conflicts.

In conclusion, Kapiolani Boulevard is not a practical routing alternative for the two new 46kV lines between Makaloa and McCully Substations. The potential traffic disruption and cost increase of constructing a new ductline in Kapiolani Boulevard are more substantial when compared to utilizing the existing ductline between the two substations.


ATTACHMENT 1
Figure 4
ALTERNATIVE ALIGNMENTS
East Oahu Transmission Project
Hawaiian Electric Company, Inc.
LEGEND
Proposed Phase 1 Underground 46kV Circuits
Proposed Phase 1 Underground 46kV Circuits in Existing Ductline
Substations Affected by Proposed Phase 1 Modifications
Alternative Alignment 1
Alternative Alignment 2
0 150 300
SCALE IN FEET
NORTH
MAKALOA SUBSTATION
McCULLY SUBSTATION
Ala Moana Shopping Center
Hawaii Convention Center
Lunalilo School
Daiei
Kapiolani Blvd
Kalakaua Ave
Kalauokalani Way
Makaloa St
Ahana St
Kaheka St
Pohl St
Hauoli St
Pumehana St
McCully St
Date St
Fern St
Lime St

INTEROFFICE CORRESPONDENCE

Hawaiian Electric Co., Inc.

July 20, 2004

To: Ken T. Morikami

From: Kerstan J. Wong

Subject: East Oahu Transmission Project - Phase 2
Alternative Route – Young Street

As noted on page 14, Lines 6-10, of your testimony, HECO T-7[1], Young Street had certain disadvantages as compared to King Street for Phase 2 of the East Oahu Transmission Project[2]. The following factors further elaborate the disadvantages of Young Street for the routing of the three new 46kV lines between Archer Substation and McCully Street:

- On-street parking appears to be a premium for the numerous businesses and residents on Young Street. There are approximately 176 on-street parking spaces on Young Street between Victoria Street and McCully Street, where 90 percent of these spaces are used on any given day and time[3]. Due to the width of Young Street, existing on-street parking on both the mauka and makai sides of the street would have to be prohibited during construction of a new ductline. This is necessary to maintain traffic flow in both directions on Young Street.

- As noted on page 15, Lines 4-7, of your testimony, HECO T-7, the City's proposed Young Street [Park] Boulevard Project involves possible modifications of the public right-of-way, undergrounding of existing utilities and planting of canopy trees. With the project's scope and timing being very preliminary at this time, it is extremely difficult to plan for an overhead or underground 46kV alignment, which would avoid potential conflicts and costly relocations after installation.

- Due to the numerous residential apartment buildings and houses directly adjacent to Young Street, it is highly unlikely that a noise variance could be obtained from the State Department of Health to allow night construction.

[1] East Oahu Transmission Project, Public Utilities Commission Docket No. 03-0417, filed on December 18, 2003.
[2] Phase 2 involves the installation of three new 46kV underground lines from Archer Substation to McCully Street via Cooke Street and King Street.
[3] Page 5, Inventory and Analysis, Young Street Park Boulevard Master Plan, City & County of Honolulu Department of Transportation Services, Belt Collins Hawaii, August 2003.

- Due to the lack of potential construction staging areas directly adjacent to Young Street, the use of Young Street for the new 46kV underground lines would foreclose any opportunity to utilize directional drilling[4].

Comparing King Street to Young Street[5], King Street is more desirable for the routing of the new 46kV underground lines based on the following:

- Between Victoria Street and McCully Street, King Street has approximately 223 on-street parking spaces[6]. The installation of a new ductline on King Street will only require on-street parking to be prohibited on one-side of the street. As shown in Attachment 1, a block-by-block comparison shows that fewer parking spaces would be impacted on King Street versus Young Street, except for the Punahou-Pawaa and Pawaa-Artesian blocks[7].

- Because King Street is already an improved street with underground utilities, the City projects planned for King Street will not significantly alter or change the public right-of-way limits. Therefore, coordination of projects to avoid potential conflicts or future relocations is much more feasible at this time as compared to Young Street. Furthermore, the width of King Street (five to six lanes), allows more flexibility to coordinate and resolve known or unforeseen conflicts.

- On the majority of sections of King Street in the project area, there appears to be no residential apartment buildings or houses directly adjacent to the street[8]. Therefore, in these sections, seeking a noise variance from the State Department of Health is worth considering, which would allow night construction. This opportunity is unlikely to exist for Young Street due to the numerous residential apartment buildings and houses directly adjacent to street for nearly the entire project area.

- Power Engineers' preliminary assessment of King Street concludes that directional drilling could be considered for the construction of the proposed ductline in certain locations, if cable ampacity and permitting constraints can be resolved. Based on opinions from two different consultants, this opportunity does not exist for Young Street because of the lack of potential staging areas.

In conclusion, Young Street is not a preferable routing alternative for the new 46kV underground lines for Phase 2 of the project. The loss of on-street parking during construction, difficulty in coordinating construction with the City's Young Street Park Boulevard Project, less flexibility to

[4] Two companies with directional drilling experience concluded that it would not be feasible to implement directional drilling on Young Street due to lack of potential construction staging areas directly adjacent to Young Street for equipment and materials.
[5] The comparison between King Street and Young Street is limited to the area between Victoria Street and McCully Street. Because Young Street starts at Victoria Street (Diamond Head side of Thomas Square Park), King Street is the only practical option to routing the ductline in the Diamond Head direction from Cooke Street to Victoria Street.
[6] Site visits between May 28, 2004 to June 2, 2004.
[7] As noted on page 7 of Exhibit HECO-804 of the East Oahu Transmission Project, Public Utilities Commission Docket No. 03-0417, filed on December 18, 2003, construction of the ductline would be done in sections.
[8] Except for the Pensacola-Piikoi and Piikoi-Keeaumoku blocks, and possibly the Victoria-Pensacola block, there appears to be no residential units directly adjacent to King Street.

resolve potential conflicts due to limited space, lack of opportunity to consider night construction, and lack of opportunity to consider directional drilling, further supports the use of King Street for Phase 2 of the project.

ATTACHMENT 1

EOTP Young Street versus King Street On-Street Parking

	Victoria-Pensacola		Pensacola-Piikoi		Piikoi-Keeaumoku		Keeaumoku-Kalakaua		Kalakaua-Punahou		Punahou-Pawaa		Pawaa-Artesian		Artesian-McCully	
	Spaces Existing	Spaces Eliminated	Spaces Existing	Spaces Eliminated	Spaces Existing	Spaces Eliminated	Spaces Existing	Spaces Eliminated	Spaces Existing	Spaces Eliminated	Spaces Existing	Spaces Eliminated	Spaces Existing	Spaces Eliminated	Spaces Existing	Spaces Eliminated by Project
Young Street	49	49	20	20	23	23	46	46	10	10	10	10	9	9	9	9
King Street	52	26	12	6	32	16	34	17	0	0	54	27	26	13	13	6.5
Additional Spaces Impacted on Young versus King		23		14		7		29		10		-17		-4		2.5